In the Office Action, Claims 1-18 are rejected under 35 U.S.C. § 102 or 103. More specifically, Claims 1, 3, 5, 6, 8, 10, 12, 16, 17 and 18 are rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent No. 5,462,867 ("*Azad*"); Claims 1, 2, 3, 5 ,6 ,7, 8, 10, 11, 12, 15, 16, 17 and 18 are rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent No. 5,096,585 ("*Nguyen*"); Claims 1, 5, 9-10 and 16 are rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent No. 5,376,274 ("*Muller*"); Claims 1, 5-8 and 16-18 are rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent No. 4,900,449 ("*Kraus*"); Claims 1, 5-8 and 15-18 are rejected under 35 U.S.C. § 102 as allegedly being anticipated by U.S. Patent No. 4,612,119 ("*Eguchi*"); and Claims 2, 4, 7, 13 and 14 are rejected under 35 U.S.C. § 103 as allegedly being unpatentable over *Azad* in view of U.S. Patent No. 5,279,739 ("*Pemawansa*"). Applicants believe that the claimed invention is clearly distinguishable over the cited art, alone or in any hypothetical combination, for the reasons set forth below.

Of the pending claims, Claims 1, 5 and 16 are the sole independent claims. In general, Claims 1, 5 and 16 each recite a polysulfone semipermeable membrane that includes a mixture of a polysulfone compound and a solvent for the polysulfone compound wherein the membrane has a substantially uniform structure throughout a thickness of the membrane. Applicants have surprisingly discovered polysulfone semipermeable membranes that have a uniform structure useful for liquid separations, such as, microfiltration, ultrafiltration, reverse osmosis, dialysis and the like. See, Specification, page 6, lines 11-15. The semipermeable membranes of the present invention are made from uniquely discovered melt-spun technology. See, Specification, page 1, lines 5-7. Applicants have provided a number of illustrative examples that demonstrate, for example, the desirable permeability characteristics of the uniformly structured polysulfone membranes of the claimed invention. See, Specification, pages 17-25.

With respect to the *Azad*, *Nguyen*, *Muller*, *Kraus* and *Eguchi* references, the Patent Office alleges that any one of these references anticipates the claimed invention as previously discussed. Of course, the Court of Appeals for the Federal Circuit has held that:

> [i]nvalidity for anticipation requires that all of the elements and limitations of claim are found within a single prior art reference . . . There must be no difference between the claimed invention and the reference disclose, as viewed by a person of ordinary skill in the field of the invention.

See, *Scripps Clinic & Research Foundation v. Genentech Inc.*, 18 U.S.P.Q. 2d 1001, 1010 (Fed. Cir. 1991).

Applicants respectfully submit that the alleged anticipating references are clearly distinguishable from the claimed invention. For example, nowhere does the cited art appear to disclose or suggest a polysulfone semipermeable membrane that has a homogenous structure such that the membrane has a substantially uniform pore structure throughout a thickness of the polysulfone semipermeable membrane.

While *Azad* purportedly discloses membranes with substantially isotropic pore structures, Applicants question the Patent Office's interpretation of this term to include a membrane with a substantially uniform pore structure throughout a thickness as required by the claimed invention. Indeed, *Azad* defines substantially isotropic to mean a pore size distribution as well as a distribution of a pore size within about one or two orders of magnitude. Further, *Azad* discloses that a reverse pore-size distribution has been surprisingly discovered to provide large pores near the membrane/solvent interface and smaller pores within the membrane matrix. See, *Azad*, column 17, lines 15-20. Therefore, Applicants do not believe that one skilled in the art would consider the *Azad* membranes as having the uniform pore-size features as required by the claimed invention.

With respect to the *Nguyen*, *Muller* and *Kraus* references, Applicants believe that each of these references discloses membranes that are made according to conventional manufacturing techniques, such as solution spinning techniques. See, *Nguyen*, column 3, line 6-18; *Muller*, columns 3 and 4; and *Kraus*, column 5, lines 1-21. As disclosed in Applicant's specification, conventional membrane manufacturing techniques, such as solution-spinning techniques, produce asymmetric membranes. Indeed, these types of membranes are known to have a non-homogenous porosity that progresses through the thickness dimension of the membrane. See, Specification, page 3, lines 8-12. This is clearly distinguishable from the homogenous and substantially uniform structure of the polysulfone semipermeable membrane as required by the claimed invention.

With respect to *Eguchi*, this reference clearly discloses membranes that have a pore-size distribution varying across the thickness of the membrane. For example, *Eguchi* discloses that the internal pore of the hollow fiber has a maximum diameter of 0.1 to 5 micrometers whereas the openings of the pore have a maximum diameter of 0.01 to 10 micrometers. This clearly

suggests that the size of the pore openings and the internal pores can vary by one to two orders of magnitude. Therefore, Applicants believe that the *Eguchi* membranes are clearly different than the homogenous and substantially uniform structure semipermeable membranes as required by the claimed invention.

As previously discussed, Claims 2, 4, 7, 13 and 14 are rejected under 35 U.S.C. § 103 as allegedly being unpatentable over *Azad* in view of *Pemawansa*. The *Azad* reference discloses membranes that are clearly distinguishable from the homogenous and substantially uniform structure membranes as required by the claimed invention as discussed above.

Further, Applicants do not believe that the Patent Office can rely solely on *Pemawansa* to remedy the deficiencies of *Azad*. Indeed, the Patent Office merely relies on *Pemawansa* for its alleged teaching regarding membranes made from solvents, such as polysufone solvents. Therefore, Applicants do not believe that one skilled in the art viewing same would be inclined to modify *Azad* to arrive at the claimed invention.

Based on at least these differences between the cited art and the claimed invention as discussed above, Applicants believe that the cited art fails to disclose or suggest a number of features of the claimed invention. Therefore, Applicants respectfully submit that the cited art, alone or in any hypothetical combination even if combinable, fails to anticipate and/or render obvious the claimed invention.

Accordingly, Applicants respectfully request that the anticipation and obviousness rejections be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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